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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,655	03/30/2004	Dong-Ryeol Lee	04-03	3414

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/812,655	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Christopher R. Lamb	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/25/05</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 6, 9, 10, 11, 15, 16, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Buechler et al. (US 6,219,316).

Regarding claim 1:

Buechler discloses:

A method for forming light beams onto a disc for a plurality of disc formats, comprising:

directing a main beam onto the disc (column 4, lines 25-35); and

directing a side beam onto the disc with a displacement from the main beam (column 4, lines 25-35),

the displacement being a LCM (least common multiple) distance of respective track pitches for the disc formats (column 4, lines 25-35).

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Regarding claim 5:

The method of Buechler further comprises:

directing another side beam onto the disc on another side of the main beam with substantially the same displacement from the main beam (column 4, lines 25-35).

Regarding claim 6:

The method of Buechler further comprises:

using the main and side beams reflected from the disc for generating a tracking error signal (column 4, lines 25-35).

Regarding claim 9:

In the method of Buechler the main and side beams are each directed onto a separate one of a land or a groove on the disc (this is inherent: Buechler does not specifically disclose lands and grooves on the disc, but they are inherent to the discs disclosed, and the spot pattern depicted in Fig. 2 has the main and side beams directed onto these separate areas).

Regarding claim 10:

The method of Buechler further comprises:

generating the main and side beams with light from a laser diode passing through a grating (column 3, lines 35-50); and

adapting at least one of a pitch of the grating and a distance of the laser diode to the grating to affect the displacement (inherent).

Regarding claims 11, 15, 16, and 19-21:

These "system" claims are similar to the earlier method claims and are similarly rejected.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4, 7, 12-14, 17, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buechler in view of Shinoda (US 5,303,216).

Regarding claim 2:

Buechler discloses a method for forming light beams as discussed above.

Buechler does not disclose "wherein the LCM distance is within a respective tolerance range from a respective integer multiple of a respective track pitch for each of the disc formats."

Instead, Buechler discloses that the LCM distance is within a respective tolerance range from a respective integer multiple of one-quarter of the track pitch for each of the disc formats (as in Fig. 2: one is 3 and the other 7 times one-quarter of the track pitch). This is because Buechler uses the 3-beam tracking method, in which the standard displacement between main and side beams is one-quarter of the track pitch.

Shinoda discloses a differential push-pull tracking method in which the displacement between main beams and side beams is one-half the track pitch for the disc format (column 1, lines 35-45).

It would have been obvious to one of ordinary skill in the art to modify Buechler as taught by Shinoda to use the differential push-pull tracking method, because the two methods are used in the same environment, for the same purpose, and achieve the same result (this is shown by Shinoda's discussion: column 1, lines 10-50).

With the differential push-pull track method, the LCM distance of Buechler would be within a respective tolerance range from a respective integer multiple of half the respective track pitches for each of the disc formats.

Finally, note that half the "track pitch" of Buechler and Shinoda is equivalent to one full "track pitch" of Applicant's disclosure. (In Buechler and Shinoda, the "track pitch" is the distance from land to land or groove to groove; in the Applicant's disclosure, the "track pitch" is the distance from land to groove or groove to land).

Thus Buechler in view of Shinoda, by Applicant's definition of "track pitch," discloses wherein the LCM distance is within a respective tolerance range from a respective integer multiple of a respective track pitch for each of the disc formats:

Regarding claim 3:

In Buechler in view of Shinoda, the LCM distance is a minimum of possible values (Buechler chooses the spacing that is as small as possible: column 4, lines 25-50).

Regarding claim 4:

In Buechler in view of Shinoda, the LCM distance is a respective odd integer multiple of a respective track pitch for each of the two formats (3 and 7, respectively, based upon the quarter-track pitch spacing of Buechler alone in Fig. 2).

Regarding claim 7:

The method of Buechler in view of Shinoda comprises using the main and side beams reflected from the disc for generating a DPP (differential push pull) error signal (this was the contribution of Shinoda as discussed above).

Regarding claims 12-14, 17, and 22-24:

These "system" claims correspond to the earlier method claims and are similarly rejected.

6. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buechler in view of Yanagawa (US 5,363,358).

Regarding claim 8:

Buechler discloses a method as discussed above in the rejection of claim 5.

Buechler does not disclose "using only the main beam reflected from the disc for generating an error signal when any of the side beams is outside of tracks on the disc."

Yanagawa discloses using only the main beam reflected from the disc for generating an error signal when any of the side beams is outside of the recorded area on the disc (thus: outside of the recorded tracks, or "outside of tracks" on the disc – abstract).

Yanagawa discloses that this is necessary to avoid tracking servo failure in the unrecorded areas (column 1, lines 45-60).

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It would have been obvious to one of ordinary skill in the art to include in Buechler using only the main beam reflected from the disc for generating an error signal when any of the side beams is outside of tracks on the disc, as taught by Buechler.

The motivation would have been to avoid the servo failure disclosed by Yanagawa.

Regarding claim 15:

This "system" claim corresponds to method claim 8 and is similarly rejected.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

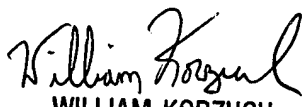
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 11/14/06

  
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